Fifth All India Library Convention

HARDWAR
May 23—26, 1985

Hosted by
Gurukula Kangri Vishwavidyalaya

Convention Papers

GOVERNMENT OF INDIA LIBRARIANS ASSOCIATION
NEW DELHI

Government of India Librarians Association (Regd.)

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Former Secretary, Ministry of Education

Shri D. R. Kalia
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Shri G. K. Arora
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Regional Languages Library, New Delhi

Shri K. K. Bhatia
Central Road Research Inst.,
New Delhi

Member (Co-opted)
INSDOC, New Delhi
(Shri Sube Singh)

Contents

उप राष्ट्रपति, भारत
नई दिल्ली
VICE-PRESIDENT
INDIA
NEW DELHI

April 30, 1985.

I am glad to learn that the Government of India Librarians Association is organizing the Fifth All India Library Convention from 23rd to 26th May, 1985. I send my best wishes for the success of the Convention.

R. Venkataraman
(R.Venkataraman)

No. 10(10)/85-SMP-II

Smt. Rajeshwari Tandon
Social Secretary to PM

प्रधान मंत्री कार्यालय
नई दिल्ली - 110011
PRIME MINISTER'S OFFICE
NEW DELHI - 110011

April 25, 1985

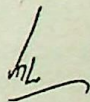
Dear Shri Jain,

The Prime Minister Shri Rajiv Gandhi sends his greetings to the Government of India Librarians Association on the occasion of the Fifth All India Library Convention being held at Hardwar from 23rd-26th May, 1985.

Please also convey the Prime Minister's good wishes to the faculty and students of the Gurukul Kangri University on this occasion.

Yours sincerely,

(Rajeshwari Tandon)

Shri M.K. Jain
President
Government of India Librarians Association
c/o Ministry of Home Affairs Library
North Block
New Delhi 110001

गृह मंत्री, भारत
HOME MINISTER
INDIA

New Delhi,
6th May, 1985.

MESSAGE

I am glad to know that the Government of India Librarians Association will organise the fifth All-India Library Convention at Hardwar from May 23 to 26, 1985. In spite of considerable growth of the library movement in the country, much still remains to be done to improve the library and information services. I hope, the deliberations of the convention will be helpful in strengthening further our information system.

My all good wishes on the occasion.

(S.B.Chavan)

D.O. No. 2623 /MLJ/85

मंत्री
विधि और न्याय
नई दिल्ली-११०००१ (भारत)
MINISTER
LAW AND JUSTICE
NEW DELHI-110001 (INDIA)

May 8, 1985.

MESSAGE

Librarians are agents of change in developing a society. Nowadays information is power. You are engaged in a noble profession of information and dissemination. I hope your convention leads to meaningful discussions and exchange of information.

I send you my best wishes.

(A.K. Sen)

Shri M.K. Jain,
President,
Government of India Librarians, Association,
C/o Ministry of Home Affairs Library,
North Block,
New Delhi-110001.

खाद्य एवं नागरिक पूर्ति मंत्री
भारत सरकार
नई दिल्ली-११०००१
MINISTER OF
FOOD AND CIVIL SUPPLIES
GOVERNMENT OF INDIA
NEW DELHI-110001

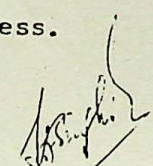
May 7, 1985

MESSAGE

Library and Information Services are essential concommi-ttants for research, planning and decision making. In this context, the Government of India Librarians Association has been doing useful work for the last many years. I am happy to know that the Association is organising the Fifth All-India Library Convention at Hardwar from May 23 to 26, 1985 to focus attention on this and other related matters. I hope, their decisions at the seminar would be useful not only to the librarians and information secientists, but to the whole society.

(RAO BIRENDRA SINGH)

No. 7/MS (P&C)/85

राज्य मंत्री
कार्मिक और प्रशिक्षण, प्रशासनिक सुधार
और लोक शिकायत तथा पेन्शन मंत्रालय
और संस्कृति विभाग
भारत
नई दिल्ली

MINISTER OF STATE
MINISTRY OF PERSONNEL AND TRAINING
ADMINISTRATIVE REFORMS AND PUBLIC GRIEVANCES
AND PENSION
AND DEPARTMENT OF CULTURE
INDIA
NEW DELHI

9th May, 1985.

I am happy to know that the Government of India Librarians Association will be holding its 5th All India convention at Gurukul Kangri University, Hardwar from 23rd to 26th May, 1985. Over the years, the Association has evolved into a national forum for the development of library and information services for the Government of India personnel.

Efficient management and retrieval of information are of vital importance for economic, industrial and administrative planning. The libraries attached to Government departments and official institutions are source of valuable data and documentation and play a significant role and responsibility in providing timely, precise and relevant information to the policy makers. I am sure that the deliberations of the Convention would focus attention on research, planning and decision making in the day-to-day Government machinery.

I wish the Convention all success.

(K.P. Singh Deo)

योजना राज्य मंत्री
नई दिल्ली-110001
भारत
MINISTER OF STATE FOR
PLANNING
NEW DELHI-110001
INDIA

April 4, 1985.

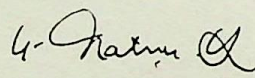
MESSAGE

I am extremely happy to learn that the Government of India Librarians Association is organising the Fifth All India Library Convention in May, 1985 in collaboration with Gurukul Kangri University. The themes chosen by the Association for the Convention relate very closely to the development of Library Science in the country.

I wish the Convention all success and hope that many useful ideas will emerge from its deliberations.

Narayanan

(K.R. NARAYANAN)

इस्पात राज्य मंत्री
भारत
MINISTER OF STATE FOR STEEL
INDIA

New Delhi-110001

May 6, 1985

MESSAGE

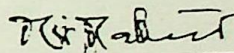
I am glad to learn that the Government of India Librarians Association is organising the Fifth All-India Library Convention in collaboration with the Gurukul Kangri University at Hardwar.

I send my good wishes for the success of the Convention.

K. Natwar Singh

(K.NATWAR-SINGH)

Prof. M.V. Mathur
Member,
4th Pay Commission

New Delhi

8th May, 1985

Dear Shri Jain,

I am glad to know from your letter dated the Ist May 1985 that the Fifth All India Library Conven tion is meeting at Gurukul Kangri University, Hardwar from 23rd to 26th May, 1985. I have every hope that the deliberations in the convention will be quite fruitful. I wish your convention all success.

With best wishes,

Yours sincerely,

(M.V. Mathur)

Shri M.K. Jain
President
Government of India
Librarians Association(Regd.)
C/O Ministry of Home Affairs Library
North Block
NEW DELHI-110001

Some of the papers which have been accepted for presentation at the V ALL INDIA LIBRARY CONVENTION have not been published here. We regret our inability to publish them here because they were received after the final deadline fixed for the purpose. However, we plan to publish all those papers which are not printed here,but presented at the Convention,in our official organ "GILA BULLETIN" in due course of time.

INFORMATION FOR DECISION-MAKERS IN THE GOVERNMENT

T.S. Rajagopalan and T.N. Rajan
INSDOC, New Delhi

Introduction

It is an age old practice with government departments in our country to have a library. Perhaps, it is also a legacy of the British administration of the past. Since fifty's, the government departmental libraries have grown considerably in size, resources and services. Undoubtedly, they must have come about due to felt needs for information support in the government administration. The users of government departmental libraries are mainly administrators - top (including ministers), middle and lower levels. They need information provision for general awareness/knowledge improvement, as well as for solving problems that come up before them in day to day work. Decision making is the main responsibility of the administrators, especially in top and middle levels. This paper discusses a few issues relating to information support for decision making, with a view to examine how effectively our government departmental libraries have been able to meet the function of information provision for decision making and if any changes are needed towards improvement in their present functioning.

Role of the Government

It is obvious that government of a country functions for the welfare of its people. The Government, within the framework of the laws of the land, has plenary responsibility as well as ultimate authority in governing. It has a sway over diverse sectors of national concern - social, cultural, economic and political - aiming at improving the life of the people and in consequence the progress of the country. In a developing society, the public administration turns out to be essentially economic administration. With welfare objectives in view, the Government sets up a goal - a statement of encompassing purpose - in different sectors in order that all actions may be directed towards that goal. For attainment of the goal, the Government outlines policy(ies) to ensure commitment to a generic course of action. Policy is temporal, adapting to or changing in accordance with evolving economic, social, cultural and political milieu. Planning takes care of realisation of goals and policy objectives. It is a tool or an instrument for accelerating rate of growth and for achieving development goals. Responsive to goal, policy and planning, a strategy - a pre-determined course of action, usually from a number of alternatives - is formulated. Strategy consists of programmes, which are a scheduled set of activities or tasks requiring implementation. Programme is a tactical action unit and calls for conceptualisation, formulation, budgeting and organisational attention. The Government functions by taking decisions on all the above. It also directs, monitors, appraises and implements the programmes. Correct decisions and their effective implementation determine the performance of the Government.

Imporance of Information

The point of attention in the foregoing explanations is to bring into focus the need and importance of information as a vital resource for the various roles of the government. Undoubtedly, information is a basic input for decision making in the government. Decisions cannot be taken depending merely upon innate professional skills and judgement of a few individuals. The decision making process involves swifting, analysing and using effectively all the necessary background information. In fact, completeness, quality, accuracy and timeliness of information are important. A decision maker cannot do justice to his role without being connected to an appropriate information base. The information base not only serves to keep the decision maker informed generally on matters concerning his portfolio but also, more importantly, provides a means for actually arriving at decisions. It is matter of common experience that decisions taken on the strength of right kind of information turn out to be always sound. One could distinguish from other means and methods, the quality of decisions arrived at with the back-up of proper information. It would seem essential that the work and responsibilities of administrators are linked to information input so that the decisions taken by them are of highest quality.

Information Needs for Decision Making

The administrators in the government deal not only with purely administrative and financial matters but also technical questions which come up for administrative decisions. The administrators at different levels may have to take different types of decisions and may, therefore, have different information needs. The decision makers are seldom introspective about decision making process. They tend to be action oriented and are not particularly analytical about their information processing behaviour. This places some constraints in the design of a library and information system for the specific purpose of decision making. One approach is to provide the user (administrator) with the information he wants. Here, the library and information system has to be built around the anticipatory demands of the users. It would mean a passive service of meeting expressed demands and not beyond. Another approach, which is more scientific, is to identify the decisions that are usually made and ought to be made, analyse lin search of model or

models typifying such decisions and assess the information requirements specified by these models. Based on the assessment, the information system can be designed thereafter. This approach is too theoretical for practical implementation. A third approach would be to observe the behaviour of administrators in day today environment, the problems that come up before them, the types of decisions they are required to take and the nature of information required by them for taking the correct decisions. This empherical method may offer useful clues for assessing the information demands for decision making. It will also be of help in developing the information profiles of individual administrators. Without further elaborating, the point highlighted here is that it is essential to make an assessment of the information needs of decision makers in the government departments, by making valid studies thereof, as a pre-requisite for the design and operation of library and information systems.

Information Sources for Decision Making

The information required for decsion making in the government consists of both internally generated sources. Internally generated information is mostly unpublished and often remains burried in thousands of files and records in government offices. The internal sources may contain descriptive, numerical and factographic information and data. It is no doubt that hard core of decision making rests with the use of internally generated information. For this reason, modern management practices include development of a strong internal information system and the use of it in policy, planning and decision making processes. Management information system, as it is called now, has been receiving greatest attention due to realisation that information is a basic input for solving complex problems in government administration. Oral information - personal and/or unofficial knowledge or information obtained during meetings, discussions, etc - comes also under the category of unpublished information sources.

In the context of organisation of library services in government departments, published sources of information are relevant. In general, as far as decision making role is concerned, published sources may be sought after to a lesser extent than unpublished sources. However, dependence on published sources of information for decision making effort cannot be completely ruled out. Further, for purpose of general awareness and knowledge improvement, the administrators may require to go through currently published material. To obtain background information in unfamiliar fields, they may have to consult published sources. The information base which should support the administrative apparatus, should, therefore, contain published sources such as monographs, reports, memoirs, acts and statutes, administrative manuals, journals, reference materials, statisitcal compilations, maps and so on. Though the need may not be pressing for advanced, scholarly and research type of publications, the administrators would require technical information, socio-economic information, statistical information and the like. The material will be, by and large, relating to domestic situation, even though some proportion of foreign publication may be required for information relating to methodology, case study, model, comparable experience, etc. The publications of international organisations, especially those of inter-governmental organisations are often useful sources of information. Official publications of other countries are also consulted in certain contexts.

Information Base for Decision Making

As explained earlier, the information base for decision making should consist of both management information and bibliographic information. The desirable course would be to have an integrated system to cover both these kinds. In the present situation obtaining in our government departments, the Library and the internal Information System are not connected together. In the context of GILA's main concern of library organisation in government departments, this paper draws attention to bibliographic information only. A government departmental library would be expected to perform the following tasks :-

i. to serve as a storehouse, by acquiring and storing published materials and to provide information/documents to users upon demand conventional library functions;
ii. to develop and maintain databases of bibliographic information in areas of interest, documentation functions;
iii. to provide a variety of services such as current awareness services, retrospective search services, referral services, supply of numerical, factual or descriptive data on demand and user training information functions;
iv. to offer information analysis services involving repackaging of information by consolidation, compaction, condensation, etc, to produce abstracts, digests, reviews, state-of-the-art reports, encyclopedic compilations and the like; and
v. to provide document back-up, through provision of reprographic copies.

Our government departmental libraries have been attempting these tasks with varying degrees of efficiency and success. While there have been problems, considerable scope does exist towards improvement and better performance in our government departmental libraries.

Issues in Perspective

A few important issues, which are essentially of professional concern and which relate to a better organisation and management of government departmental libraries, are ellaborated here for the earnest consideration of the participants of this Conference.

1. Our government departmental libraries

have been following conventional practices and methods in their operations and services. No concerted efforts are being made to introduce automation and computerisation. It is recalled that the Working Group of the Planning Commission on Library Services and Informatics has strong recommended measures for application of modern technology libraries. Our Government is also stressing upon the need for modernisation. Modernisation, besides improving speed and efficiency, will lead to increase in productivity. It may also offer some solution to the chronic problem of shortage of space in libraries. It is the most opportune time now to get all the support necessary for modernisation programmes in libraries. What is needed is an action plan and a commitment on the part of library and information personnel for switching over to modern methods. A model scheme has to be worked out for the guidance and adoption by all the government libraries. The scheme should provide details such as inputs and infrastructure required, hardware and software requirements, areas/functions to be automated, networking with other systems and manpower training. It should also contain a time bound programme for implementation.

2. It has been explained earlier that decision making is the main function of those engaged in government administration. It is a moot point if our government departmental libraries have any scientific approach at all in their design and organisation for the specific role of information provision for decision making. Whatever, that is being attempted now is mostly ad hocand cannot be considered as systematic or foolproof approach. It is essential that the design and functioning of libraries should be on the basis of assessment of user's needs for decision making in different environment. There are many examples and case studies to show how libraries, whose operations are based on user's requirements, are able to improve the satisfaction level, remove redundancies, optimise resources and facilities and bring about cost effectiveness in their services. The point of attention here is that user studies are important to assess the information requirements for decision making and that the Government libraries ought to organise themselves for the specific role of information provision for decision making.

3. Very little attention is at present being paid to information analysis services by our government libraries. In fact, these are the most pertinent and useful services to the administrators. The administrators are usually busy people. They work in an environment which is not conducive to academic pursuit and for that matter, library and information use by them would be minimal. They do not have enough time to scan, search, and browse any large amount of literature. They would prefer to have some ready-made services to meet their information requirements. They would appreciate carefully evaluated, analysed, synthesised and repackaged information, culled out from various sources, so that they could quickly assimilate and utilise the information straightaway. Information analysis is a process of condensation, compaction, consolidation and repackaging. A certain amount of evaluation of information is involved and for this, subject knowledge is essential. The products of information analysis are abstracts, digests, summary, extracts, reviews, state-of-the-art reports, encyclopedic compilation, etc. If our government libraries are to break new grounds and elevate themselves up, they should start organising information analysis services. It will also be an opportunity to the library staff to show their capability for a higher level performance.

Libraries cannot aspire to be self-sufficient in their resources and facilities. It is also difficult to comprehend always the nature of information demands for decision making and equip in advance the library facilities and the resources to meet them. It would seem imperative that libraries have to also make use of the resources of other libraries and information centres in many occasions and should be able to switch information from outside sources for meeting the demands of the users. The government departmental libraries have many common interests. They should be linked together in a network, so that their entire resources and facilities could be pooled for use by all the partners in the network. Networking will also contribute to an overall economy. While the details of networking are not spelt out here, it is pointed out that the government departmental libraries, at least in Delhi, should take practical steps to evolve a network among themselves, in order to serve the clientele better and more economically.

5. Despite the fact that information is a critical resource for decision making, and that the government departmental libraries have a role in information provision, the use of the libraries has been very poor. The libraries are not being used as they could and should be. The active users are a few and rare. Even the number of marginal users is not large enough. Non-users of library are to be found more in abundance in government departments. Libraries and information services cost substantial investments and should, therefore, be exploited fully. Obviously, the potential users are not aware of library services and the benefits to be gained from their use. We do not seem to be paying much attention to the promotion of information use. We have

no strategy at all for marketing of library and information services. Unless we develop this area of activity, our libraries will remain under utilised and they cannot make much progress.

Conclusion

In this paper, five important issues, viz, modernisation, system design on the basis of assessment of information requirements for decision making, information analysis services, networking and marketing of library and information services, have been identified for focussing attention. So important they are, in recent professional literature as well as in actual practice, they have been subjects of intense study and discussion. They are also very relevant to the situation obtaining in our country and for making progress in library and information services. To the members of the Government of India Librarians Association, these are also crucial issues. Each one of these five issues could be a theme of a seminar/workshop or a working paper of GILA. It is fervently hoped that the GILA will address itself seriously to these. basic issues and evolve an agenda for action for early adoption and implementation.

INFORMATION SERVICES IN NATIONAL PLANNING AND DECISION MAKING

Miss Harinder Kaur and S.P. Agrawal
Social Science Documentation Centre, New Delhi

Like Laws of Library Science, we have Finagle's Law relating to Information, which goes on to say that "Information we have, is not the information we want; information we want, is not the information we need; the information we need is not available". At the same time strong Information base is sinequa non for Research, Planning and Decision-making, which in turn are primary factors of individual and national development. Information is thus concomitantly, a pre-requisite for the overall development of an individual as also for economic, social and cultural development of the nation as a whole. The type and amount of information required may vary according to the needs and circumstances, but its significance can hardly be challenged. Even in our day-to-day lives, in its absence, we can not move a step further.

While decisions at the individual level are normally taken on the basis of one's personal perceptions and experiences, decisions at the institutional, national and international level are taken on the basis of recorded information, which may be available in published or unpublished form, embedded in various types of documents, such as books, periodical articles, monographs, lectures, conference papers, technical reports; and also in various other formats like magnetic taps, microfilms, microfiche, audio-visual and the like.

Recognising the fact that the information is the foundation stone of research, planning and decision making; and library the store-house of knowledge and information, it is quite obviously through the library and its services that the urge for information can be satisfied. The librarian or the information officer, thus is supposed to play a very important role in information dissemination. Acting as an information broker, he brings both user and information together by making the best possible match between the two, thus satisfying the 3rd & 4th Laws of Library & Information Science namely (1) Every book/information its readers; and (ii) Every reader his book/information.

Information Services vis-a-vis Planning and Decision Making

Much has been written and discussed about the role of library and information services in the advancement and furtherance of academic research. The needs of a researcher are 'to a great exfent' fulfilled by the university and research libraries, by providing various types of services such as documentation, reference, current awareness service, the selective dissemination of information, reprography, translation, etc. But due attention has not been paid to the role of information services in planning and decision making, although of course, this does not belittle their importance.

The important role which Information services play is well recognised not only by the librarians but by the planners and decision makers themselves. Sir Frank Holmes, Chairman of Newzealand Planning Council, in a paper delivered on 14th February, 1979, while highlighting the importance of library and information services in planning said that the planners are actualy aware, how dependent good planning is on effective information services which are and could be provided by libraries. According to him, managing a bewildering flow of information and developing effective systems of communication are at the heart of their responsibility.

Decision Making Process:

Decision making process is dynamic in nature and in addition to deciding the course of action consists of two salient components, the one is to act and the other to learn from the resulting experience in order to make future decisions more effective. In some cases, the effect of a poor decision can lead to some dire consequences and as such it is incumbent upon the decision maker at every level in an organization to obtain the best possible solution, relative to a stated criterion and to the constraints imposed on available resources, such as money and time.

Decision making is frequently classified by three categories : (i) Certainty, (ii) Risk: and (iii) Uncertainty. Frequently, both the aspects of risk and uncertainty are inherent in the same problem and they are bound to appear. The information provided at the appropriate time reduces the probability of risk and uncertainty to the minimum and increases the Ikprobability of certainty to the maximum. And this can only be made possible, if library and information services are rendered in an organised manner.

Planning Process:

Planning is an over-all organisational effort involving participation of almost all the organs of an organisation-governmental or non-govermental at various levels. Planners also require correct data and overall background information of the area/field concerned to draft their development strategies. Feeding of incorrect data relating to resources-financial, human and natural may produce adverse results. This data may be available in various forms such as socio-economic surveys, research project reports, market report, gazetteers, statistical handbooks, etc. Librarians have to judge their authenticity and reliability. Planning at national level in our country is the responsibility of Planning Commission. It coordinates the planning process, set in motion in the various States.

The Library of Planning Commission and other departmental libraries play important role by providing information which directly or indirectly helps in planning and decision making at the national level.

Information Infrastructure:

Planning Commission Library came into existence, with the establishment of Planning Commission in 1950. Other departmental libraries have been in existence in one form or the other since or even before independence, established to help the policy makers in their day-to-day decision making and as such serve as most important source of information required by various departments and ministeries for the projects or questions under consideration at different levels of decision making.

In departmental libraries, librarians collect information/data related to developments in the country with particular reference to their own departmental field. They are intended to provide required information at the time of need and within minimum loss of time. The information required can be factual or descriptive, but the matter of prime concern is its accuracy, authenticity and relevancy. The librarian, being the deciding authority about the relevance of information, has to be very careful in handling the required information. Sometimes the information readily available in a particular field, is very small, all the same all of it or even more is needed. In that case, the librarian's task is to identify and collect all the information. While in some cases, the information is available in abundance, then the librarian's job is to scan, select, assimilate, organise and disseminate relevant information. The actual concern of the planners and of those who supply the planners with information, is to bring together all information, which may throw light on a particular problem and anticipate difficulties leading to increased possibility of certainty. and avoidance of risk.

Departmental Libraries Health

When we try to examine the existing conditions of departmental libraries in India, and the information services provided by them, we are faced with utter frustration and disappointment. Most of these libraries, with the exception of only a few are manned by a sole individual in the clerical cadre and equipped with emphemeral type of literature. The services rendered by them are limited to lending only. They are hardly libraries in the real sense of the term. The acute shortage of space & funds are amongst the most common characteristics.

The situation requires some drastic steps for their improvement. What we need for a healthy national planning, is the free and smooth flow of information and the eradication of the barriers and hurdles, obscuring this flow. A few suggestions in this context are made here :

Need for Improvement:

We need to :

1) establish information systems and networks in different fields/disciplines in order to ensure availability of necessary information and data for policy formulation, planning and decision making both in government and private enterprises, under an overall coodinating agency. During the last few decades, a number of special libraries and information centres, under ministries/departments, have come up, but these lack proper interlinking and coordination, and sharing of resources and services, under centralised controlling and coordinating agency, which could also be made responsible for devising an organised system of handling information at various levels of an institution. Though a few steps in this direction have been taken, like setting up of NISAT, much remains to be done, specially in the socio-economic field.

2) adopt new and modern technology for handling information. The atutomation/computerisation of all the processes and services, ranging from circulation and cataloguing to abstracting and indexing services, is of tremendous importance to cater to the needs of information users.

3) appoint Working Group Committee to review the role of library & information services in planning and decision making. The Planning Council of New-Zealand has set up a small working Party to assess the current position regarding information for planning; to investigate ways of improving the collection, storage and transfer of information; and to find out the methods to adopt computer and communication technology for handling information and planning.

4) improve working conditions of departmental libraries by recruiting qualified personnel, and by providing adequate collection, sufficient space and funds for the optimum utilization of available information resources.

5) evolve a well devised and organised system for marketing of the available information sources, especially government publications, which being primary source of information for national planning and decision making, need proper publicity and distribution. Mohinder Singh suggests the formation of a committee consisting of librarians, representatives of the agents of government publications and government officials connected with government printing and publishing to suggest ways and means to modify the existing arrangements of sales and distribution, in the light of modern techniques.

Conclusion :

The developments in the last two decades marked with the information explosion, advent of automated information technology and development of services like CAS and SDI has brought a revolutionary change in the role played by library and information services. The librarian, working as an information broker is to accept a direct responsibility for the acceleration of development process of the nation as a whole.

The success of 7th plan, depends on the coordinated efforts of the scientists, industrialists, social scientists, planners and decision makers, as also information personnel. We have to adopt all ways and means, and leave no stone unturned in bringing about this coordination.

References

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INFORMATION SYSTEMS & SERVICES FOR R&D MANAGEMENT

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1. GROWING SIGNIFICANCE OF INFORMATION

Information is a vital resource for national development. In Japan which is one of the most industrially advanced countires, information is treated as raw material like coal or iron and is considered as one of the basic factors needed to remain competitive. In U.S.A. more than 50% employed persons belong to information related services. Information in USA is a fast growing industry and is only next to oil and automobile industries. In U.K., 47.3% of the working population is employed in information related industries. The powerful nations in the world possess more efficient control on the information processing and utilization.

2. TYPES OF INFORMATION

R&D activity is an important component in the national development. The information required for R&D falls under the following categories:-

a. Scientific Information - for research & development projects.
b. Management information - for decision making, policy, planning & management.

Information required under these categories should be precise, exhaustive, relevant and timely. It should be properly analysed and processed before passing on to the users. Information system should be carefully planned taking into consideration the users' requirements and the available resources.

3. R&D ENVIRONMENT

The technical disciplines of science & technology which used to be quite distinct, have moved much closer together since World War II. R&D work has become more or less a team work, which is usually taken up as projects with defined cost & time frames. The individual in the R&D team is subordinated to the requirements of the project group and has often to acquire knowledge and skill in areas other than his specialisation. This environment has focussed attention on the professional technologist as a manager who not only is trained and experienced in technology but is effective in carrying out the responsibilities of the management process as well.

4. R&D PROJECT

A project is defined as an organised programme of investigation and activity carried out to reach a defined goal, often of a non-recurring nature with a specified terminal point. Life cycle of a project has four phases i.e. conceptual, initiation, operational and terminal. Management is often required to make key decisions in the life cycle of the project which are represented by four key interrelated parametric groupings i.e. time, cost, performance and risk.

5. RESPONSIBILITIES OF A MANAGER

A manager has to fulfill four basic responsibilities of planning, organising, directing and controlling. Because of their close interrelationship, these four responsibilities characterise management as a process. A manager must integrate and carry out the components of the management process smoothly in order to mobilize the resources for the accomplishment of goals.

6. MANAGEMENT LEVELS & THEIR CHARACTERISTICS

The users in the management may be grouped into the following three levels :-

a. Strategic - This represents the top management and comprises Chairman of the organisation, President & Vice-President of major sub systems. The strategic level is concerned with direction that leads to the accomplishment of long-range general objectives. It determines the particular mission & objectives and lays down the policy guide lines for lower decision levels.
b. Tactical - This represents middle management sometimes also called the technical and management control level. It comprises managers/chiefs of the divisions/plants/regions etc. It is fundamentally concerned with the allocation of resources and pursuit of the overall strategies. If the strategic level is concerned with 'what' the enterprise is to do, the middle management is concerned with 'how'
c. Operational - This represents lower level of management and comprises supervisors/foremen etc. It is most concerned with immediate successive objectives and executing of managerial requirements. It is responsible for carrying out all the jobs.

At the operational level one is typically concerned with great detail within a relatively narrow framework of reference. At the tactical or middle management level, the boundaries of the situation in view have broadened; whilest at the strategic level one is concerned with the interactions between the enterprise and its outside environments at a selectively high level of abstraction.

The type of decision process also changes with the respective management level. At the operational level, many of the decisions are essentially programmable and rules can be determined for the effective decision process. At higher level imagination and creativity are required.

7. INFORMATION REQUIREMENTS OF MANAGEMENT

Information has been accepted as a resource

like man, material, money and machine. Management which is basically the process of decision making, requires information both for projects and management functions. The requirements of information for each management level vary in content, quality and format.

Operational control decisions are characterised by historical information. Usually the results are expected and the source of information is the internal operation of the organisation. The data, for example, production- control data, inventory status or accounts - receivable balances must be detailed. Because it deals with day-to-day operations of the organisation, the operational control information is often required in close to real time. This information tends to be highly structured and very accurate.

Information for strategic decisions on the other hand tends to be more predictive and long-range in nature. Often external data on the economy, industry, competition and so forth are involved in strategic decision making. Summary information on periodic basis is adequate; there is usually no need for highly detailed or excessively accurate information.

The requirements for middle management fall in between those of operational control and strategic planning.

8. Information for Projects

Information Services for R&D projects fall under the following categories:-

Current Awareness Services (CAS) - The CAS aims at providing the current information useful for the projects, which is identified from the primary sources such as journals, monographs, reports, conference proceedings, patents, standards, translations. It is repackaged in the form of in-house indexing/abstracting bulletins, SDI, newsletters, state of art reports, area study reports, etc keeping in view the subject requirements of the user and disseminated to them. With the advent and availability of computer and databases, the SDI (Selective Dissemination of Information) has assumed great importance. The information is supplied to the user periodically against individual or group interest profiles, with a built-in mechanism for feedback on the relevance of information.

In India, INSDOC is operating SDI service covering CA Search, INSPEC & COMPENDEX databases providing service to about 200 users. DESIDOC is also operating SDI service for Defence R&D Scientists on limited scale, using its own database.

9. Retrospective Search & Use of Databases: Information is often required on a specific topic for which besides current information, secondary information sources such as indexing/abstracting journals are also required to be searched. These days almost all the indexing/abstracting services have been computerised and are operating as machine readable databases/databanks. These databases better known as bibliographic databases are estimated to contain more than 70 million records and provide access to a wide range of subject material. The information provided by these databases is in the form of list of references. The relevant documents have to be procured by the user himself through the libraries.

10. Online Bibliographic Services: The developments in computer & communication technologies have given rise to a new information service which provides the user with online access to the bibliographic databases located in different countries. Online searching may be defined as the process of interactively searching for and retrieving information by computer from machine readable databases Communication with database takes place via key-board terminal with a screen and/or printer, to display the interaction and the results. Databases can be searched to identify or verify known items for quick reference. In retrospective searching and for selective dissemination of information, the output can be printed on local teleprinter (or telex) or batch run on a centralized high-speed printer and mailed to the users. These databases are also accessible through online vendors like DIALOG, SDC (System Development Corporation) & BRS (Bibliographic Retrieval Service). With the help of these online vendors it is possible to get connected to any database in the World, provided one has a telephone line and a terminal/telex for interrogation. The advantages of the online literature searching are :

i. It is much faster than the manual searching.
ii. It requires less time.
iii. Several years of coverage can be accessed in one online search.
iv. It has better precision/recall control by providing more access points and ability to create complex search combinations etc.
v. It expands the resources of the library by providing access to materials held.

For project oriented information, online bibliographic service is very useful as it covers world-wide sources and provides almost instantaneous service. It is particularly useful in the conceptual phase when the project is to be formulated.

11 Online Access Facilities in India: The facility for online access to databases is available at BHEL Hyderabad since 1982. DESIDOC has also acquired a DIALOG terminal for accessing the data bases, for the benefit of DRDO scientists. Information Centre for Aeronautics at NAL Bangalore has recently entered into an agreement with the European Space Agency (ESA) for

accessing data bases covered by the ESA Information Retrieval Service.

12. Information for Management Functions:
Besides project oriented information, R&D manager also needs mission oriented information for overall awareness. In project management, certain planning & control techniques such as PERT (Programme Evaluation & Review Technique) and CPM (Critical Path Method) are used to help the manager to coordinate project tasks and control work accomplishment. The PERT & CPM which are also called network techniques, assist the manager in assessing the two critical inter-relationships:
    i. The interface between various elements & groups involved in the project.
    ii. The relation between current status and likely status at some future point.

This enables the management to plan and institute corrective actions on a more timely & effective basis. These requirements are met by Management Information Systems (MIS).

13. Management Information System (MIS)
MIS has been devised to aid management in organisational planning, operation and development. It not only selects but also computes, processes and transforms the data into meaningful information. MIS is essentially a computer-operated system. The modern computer offers much greater speed, data storage and processing capabilities which are requirements of the MIS. The characteristics and functions of an MIS are :
    i. MIS should support executive usage. It should be more than transaction oriented systems and provide information for managerial decision making.
    ii. MIS should cross organisational lines. Besides serving the top executive which is its primary function, it should serve various managerial levels in various functional units of the organisation.
    iii. MIS should be responsive to unstructured requests for information. The system should permit retrieval of information from a data base in response to requests whose boundaries have not been completely predefined.
    iv. It is not sufficient for a management information system simply to produce more comprehensive or more timely information, it should have built-in appropriate statistical & methematical aids to managerial decision making such as simulation models, linear programming codes and statistical packages for interactive usage by managers who are attempting to assess the future consequences of their decisions.
    v. The MIS should provide integrated and non-redundant information. The source data should be captured and recorded only once and then placed in the data-base accessible to all users.

14. MIS in the Govt of India
National Informatics Centre (NIC) has been set up to catalyse computer usage in decision making mechanism in various ministries and departments of the Central Govt. There are 15 specialised divisions/groups in NIC providing service to the user organisations in building up information systems.

With the Govt of India's emphasis and encouragement to the promotion of computerisation in the country, it is hoped that MIS will get more impetus.

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VALUE OF INFORMATION AND IMPACT OF INFORMATION ON DECISION-MAKING AND ECONOMY

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Abstract

The paper produces a very clear spectrum of Information output, their control and usefulness in the intellectual productivity of the Research and Development Organisation. It also gives various kinds of Information and their important role in the national development. Some important national and international Information Systems and services like UNISIST (United Nations Information System in Science and Technology), UIC System (International Union of Railway System), NIC (National Informatics Centre), NISSAT (National Information System on Science & Technology) etc, more concerning to Information handling and techniques have been described. Impact of Information on industrial property problems have been touched. Economic and organisational factors in large enterprises have beeen reviewed. Varieties of Information Services like reference services, current awareness services, information analysis, condensation services and their supporting services etc, along with their important techniques and usefulness have also been reviewed. Strategy of users studies, their needs of information, relationship with other information functions, various processes involved, information personnel and their role, have also been specifically mentioned.

In view of the fact that the population of scientists and engineers in the developing countries has been increasing at an average of 2.5% which is higher than the rate of growth of world population, the cost of Research and Development (R&D) activity has been increasing as the square of the number of scientists and engineers engaged in this work and the output of scientific and technical literature has been increasing at an exponential rate and it is estimated that over 3 million documents will be appearing at 1985 and if the current rate of expansion were to continue for over 200 years, new journals would be arriving at the libraries so fast that they would be moving over the shelves at the speed of sound. To achieve the above economical methods by way of resource sharing in libraries and use of Microfiche and Ultra-fiche and also computers have been briefly suggested.

LIBRARY AND INFORMATION SERVICES FOR DECISION MAKING

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Abstract

The paper establishes the need for an efficient library and information service for decision making and analyses the information requirements for decision making in an R&D Organisation. The information services necessary to provide the requisite information have been mentioned. Design of library & information service for decision making has been presented describing its various functions such as acquisition, interpretation, storage and retrieval, and presentation of information. It is concluded that an efficient library and information service may be evolved for making decisions correctly.

0. INTRODUCTION

Decision-making is one of the key roles of management in every R&D Organisation. The success of an R&D organisation depends on the decisions made by its management. The management functions like planning, organising, directing, coordinating, reporting, budgeting etc. are carried through a series of decisions taken at different levels. For greater efficiency in management, new approaches are needed in order to define the right problems and work the problem right in other words we need correct and timely decisions.

1. NEED FOR EFFICIENT LIBRARY AND INFORMATION SERVICE

In recent years, the idea of introducing into an R&D organisation an information service that is specially designed to support its managerial and decision making activities has received increasing acceptance.

The growth of the activities has made it much more difficult for one man to control and direct the activities of an enterprise efficiently. As the staff size of an R&D organization increases, the amount of authority that must be deligated naturally increases also. Responsibility for routine activities and accompanying decisions is deligated tothe managers at the middle and lower levels of the R&D Organisation. Senior management concerns itself with the less routine activities of planning and policy making. These activities are increased with setting the future objectives and directions of the organizations.

Therefore there is a need for efficient library and information service to cater the needs of all levels of management personnel who are concerned with decision making.

2. INFORMATION

Perhaps the most explicit definition in the technical literature defines 'information as recorded experience that is or can be used in decision making'.

The definition quoted above makes an important distinction between information on the one hand and recorded experience on the other. The distinction is that recorded experience becomes information only when it is or can be applied in a decision process.

The commodity that is acquired, transmitted, processed and stored by a library/information centre is usually a mixture of (a) factual data, (b) material that has been subjected to interpretation in its passage through the library, and (c) other content that is openly acknowledged to be the opinion of the individuals both within the R&D Organization and outside it. The output is presented to through the information service tothe managers who are faced with decision problems and who place their own individual interpretation on the material and derive information each in his or her own way.

3. COMPONENT OF LIBRARY/INFORMATION SERVICE

A modern organization can be regarded as a system that sets goals and endeavours to achieve them. It has objectives and it uses resources in undertaking activities in persuit of these objectives.

4. INFORMATION REQUIREMENT IN R&D ORGANISATION

In a research and development organisation the top level management is generally engaged in policy formulation, R&D programming, planning, budgeting allocation of resources, etc. All such activities involve major decisions. They require accurate and time information presented in the form that it can be used directly in decision making. The information so required is scientific and technical, managerial, administrative and operational, social, political and economic in nature. They need information on the latest technologies available for their R&D programmes and innovation of technology to carry research and development work. They are confronted with many social, political and economic forces prevalent at the time and need a thorough knowledge and information of the changing environments which have a bearing on their decisions.

The R&D managers have also to deal with day-to-day problems of the organisation for which they need managerial, administrative and operational information in making decisions. All such information is required tobe presented in the form of reports, reviews, statistical data, procedures, rules and regulations etc., so as to provide the management with pinpointed information for decision-making.

5. CATEGORIES OF INFORMATION

The categories of information required

by managers at the various levels of an R&D Organization have been described in the following terms :-

a. Environmental information : Relating to the social, political, and economic aspects of the environment in which the R&D Organization is operating.
b. Competitive informatioon : Describing the performance plans, and activities of other competing R&D Organizations.
c. Internal information : Concerning the operations of one's own R&D Organization.

6. ROLE OF LIBRARY/INFORMATION SERVICES

The role of the library and information services is to acquire information in each of these categories from a wide number and variety of sources such as :

a. Open and widely published sources.
b. Confidential or secret sources.
c. Personal sources.
d. Institutional sources.

Process the information according to requirement laid down by those who use it, transmit and report the information to those who need it in the course of their day-to-day work, and store the information, when necessary, in a form appropriate for efficient latter retrieval.

More recent information services do, however provide facilities for more effective acquisitions, transmission, and storage of information in support of decision process at the highest levels of management. An information service of this nature has the following functions:-

a. Acquisition of information
b. Interpretation of information
c. Storage and retrieval of information
d. Presentation of information

7. DECISION-TAKERS AND MANAGERS

Following are the decision takers and managers who would be using information in an R&D Organization :

a. Chief Executives, Senior Managers.
b. The Executive heads of institutions.
c. Heads of Divisions.
d. Project Leaders.
e. Group Officers.
f. Service Managers such as Librarians, Computer personnel, Workshop Engineers, Catering Officers, Accountants, etc.

8. TYPES OF LIBRARY & INFORMATION SERVICES FOR DECISION MAKERS

The interests of senior managers are likely to be immediately concerned with the job in hand but will alter as their concerns change. The range of interests of the senior managers, may, however be difficult to determine. A useful storatagem when to talking to managers is to get them to talk about the problems that they envisage arising over the coming months. Care must be taken, when developing information services for senior managers to distinguish between their regular preoccupations and one of the zooming activities.

Four types of information services suggest themselves :-

a. Selective provision of information on themes of current importance to individual senior managers.
b. Searching out information on narrower project areas for specific managers. Obviously this service would require close understanding between the person providing the service and the manager concerned.
c. Low key but systematic information provision on developments outside the department in the broader area of each senior manager's responsibility.
d. Collection and dissemination of internal performance information and comparative performance information.

9. CONCLUSION

Information is most vital in decision making in an R&D Organisation. The success of an R&D Organization depends upon the accurate and timely decisions taken by its managers. The accuracy and timeliness of decisions depend upon the comprehensive and accurate information presented to the managers and its utilisation in decision making. This necessitates the organisation of efficient and effective library and information services based on acquisition of information from a variety of sources, required by managers involved in decision making and stored in a way that retrieval of information is most efficient; and presented in a form that information can be utilised directly by them and be effective in making decisions.

10. ACKNOWLEDGEMENTS

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ROLE OF LIBRARY & INFORMATION SERVICES IN DECISION MAKING

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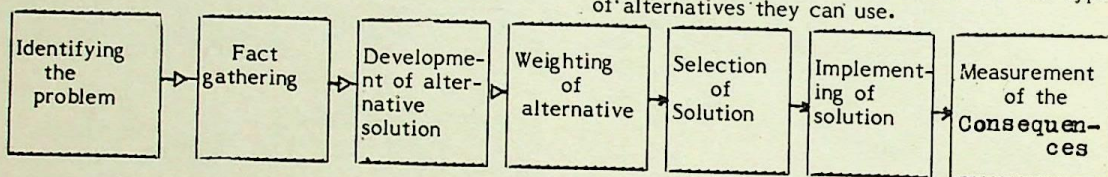
Abstract

Decision making has been recognized as a basic activity to be performed by Librarians and Information Scientists in their different organizations. It is essential that they develop rational decision making procedures and strive to improve their decision making capabilities by analysing their decisions and obtaining a better understanding of nature and complexities of decision process through Library and Information Services.

Library & Information Centres exist to provide information needed to support the decision making process in organisations. Information is used to recognise problems, to evaluate alternatives, and to execute the results of decisions. Decision making is a process or an activity common to all levels of management and often considered to be management itself. Decision making is defined as the selection of a specific course of action from known alternatives for the attainment of a desired outcome. The overall anatomy of decision making process is depicted through this chart.

Steps in Decision making

The various phases or steps of the decision making process have been explained by many management experts but the most common steps which are usually taken in the decision making process are as under :

Identifying & defining the problem
Fact gathering
Development of alternative Solutions
Weighting of alternative solutions
Selection of solution
Implementation of solution
Measurement of the consequence

Identifying and Defining the Problem

Decision making is essentially a problem solving process that involves eliminating barriers to attain organizational goal. Naturally, the first step in this elimination process is identifying exactly what those problems or barriers are? Only after the barriers have been discarded and adequately identified, management can take step to eliminate them. For example, Budger Analysis.

Fact Gathering

Fact gathering is the second stage in the decision making process which means that all facts pertaining to the identified problems are gathered from all possible internal and external sources. For example, collection of requirements for budgeting.

Development of Alternative Solutions

Once facts are gathered pertaining to the identified problems, the various alternative problems solution should be listed. Very few organizational problems have only one solution and the manager should not have the attitude that a problem can only be solved in one way instead, they must develop the frame of mind that influences them to search out the many alternative solutions that exist for most organizational problems, before searching for alternative solutions, Library & Information managers must be aware of the limitations on the types of alternatives they can use.

Weighting of Alternative Solutions

If the alternative solutions are found out, there require to be weighted on various factors such as authority factors, biological factor, physical factor, technical factor, economic factor. Example Weighting the budget in terms of collection building and services.

Selection of Solutions

Library & Information manager selects the most appropriate solution after the alternate solution is weighted properly for implementation.

Decision maker can select the most beneficial solution only after they have evaluated each alternatives very carefully. This evaluation should consists of three steps:

1. Decision maker should list as accurately as possible the potential effects of each alternative as if the alternative had already been chosen and implemented,
2. Decision maker should assign a probability factor to each of these potential effect. This would indicate how probable the occurane of the effect would be if the alternative was implemented,
3. Keeping organization goals in mind, decision makers should compare each alternatives expected effects and their respective probabilities. The alternatives that seem to be advantageous to the organization should

be chosen for implementation.

Implementation of Solution

After chosen the appropriate solution decision maker implements the solution in the environment. Example: After considering all possible consideration and budget analysis, the books are procured in the library as per fund allocated.

Measurement of the Consequences

Even after the chosen alternative has been implemented, the task of decision maker is not complete. They must gather feed back to determine the effects of the implemented alternative on the identified problem. If the identified problem is not ;being solved as a result of the implemented alternative that will reduce the impact of the existing problem. On the other hand, if the problem is solved as a result of the implemented alternative, managers can turn their alternative in solving other organizational problem.

Type of Decision Making

1.Programmed Decision Making:

Means that an automatic response is given to previously established policies. All problems that are repetitive and routine with well defined parameters readily lend themselves to programeed decision making. In a large number of cases there are opportunities to implement programmed decision making because many decisions are made in accordance with standard operating procedures. The main advantage of this type of decision making is that it frees management for more important tasks.

2.Non-Programmed Decision Making:

Non-Programmed Decision Making is a process of dealing with ill defined problems. They are usually complex only a posting of the set of total parameters is known, and many of known parameters are highly probabilistic. It takes all talent of a skilled decision maker plus the aid of a well designed information system to make sound non-programmed decision making.

Individual Decision Making

Under this type of decision making, decisions are made by individuals. These decisions may be of three types :

1. Operating activity decisions
2. Managerial control decisions
3. Strategic planning decisions

For example : A decision regarding computerization of Library operations taken by the Librarian is an individual decision making.

Group Decision Making

There are certain occasions, where decisions are made by groups rather than individual. Committees, Board of Directors and Juries all render group developed decisions - Legislation is an important example of group decision making. In case of IITD Library, decision taken by the Advisory Committee for Library is a group decision because all the Heads of Departments participate in the decision making through ACL.

Levels of Decision Making

Decision making process occures at three levels :

Strategic: Strategic decisions are characterized by a great deal of uncertainty and are future oriented. They establish long range plans which effect the entire organization. The goals of the organization are stated and a range of strategies are made. It includes establishing objectives, policy making, organizing and attaining an overall effectiveness for the organization.

Tactical: It pertains to short term activities and allocation of resources for the attainment of the objectives. This kind of decision making relates to such areas as formulation of budget, fund flow analysis, personnel problems, service improvement and research and development.

Technical: It ensures that specific tasks are implemented in an effective and efficient manner. Example - Worker allocation.

Factors Influencing Decision Making

A. Educational & technical background & skills
B. Previous technological and managerial skill
C. Individual, members involvement and commitment to attaining systems goal
D. Interpersonal behaviour
E. Availability of human resources for utilization between the system.
F. Organizational and staff components
G. Technological components
H. Sociological components
I. Government regulating control
J. Public & political attitude

CONDITIONS

Decision Under Certainty

This is the simplest form of decision making. The outcome resulting from the selection of a particular strategy is known. There is just one state of nature for each strategy. There is complete and accurate lknowledge of the consequence of each choice. The decision maker has perfect knowledge of both future and the outcome.

Decision Making under Competition or Conflict

This involves situations of conflicting interests where the outcome is controlled by the decision of all particies concerned. A technique called the game theory is usual in such situations. The state of nature of the decision maker is in conflict with intellegent rational opponent whose interests are opposed tothat of decision maker.

Decision under Risk

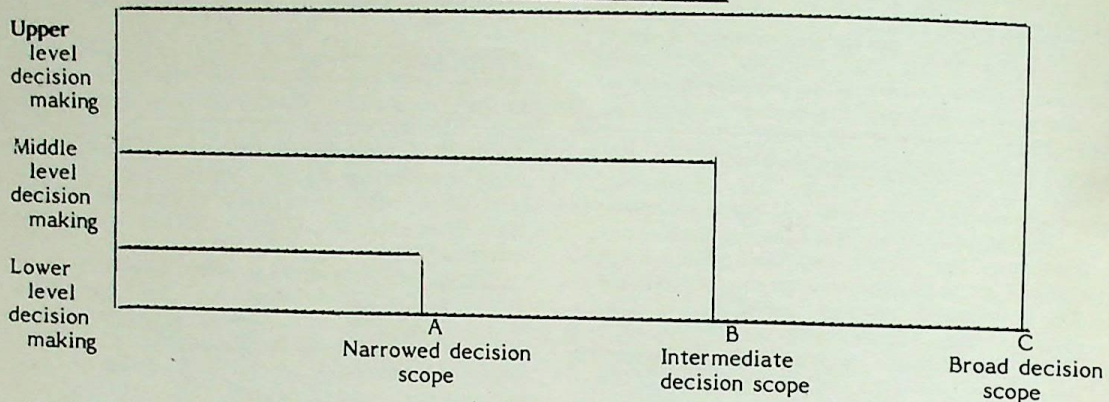
Under this conditions the various state of nature can be enumerated and the large run relative frequency of their occurance is assumed to be known. This information about the state of nature is probabilistic.

Decision under Uncertainty

In this case we either do not know the probabilities associated with the state of nature or we do not know the state of nature.

Types of Decision Makers

Feeling types are aware of other people

LEVEL OF RESPONSIBILITY

and their feelings like harmony, need, occasional praise, dislike telling people unpleasant things tend to be sympathetic, and relate well to most people. They make decisions that are likely to win the support of their subordinates and superiors.

Thinking types are opposite extreme of the feeling type. They are unimotional and uniterested in peoples feelings. They like analysis and put things into logical order. They emphasize intellectual approach to problems. They prefer to use formulas and rational analytical tool that make up scientific method.

Sensational types: Prefer working with structural problems and like to avoid decisions that involve considerable uncertainty or discretion.

Intuition types like solving new problems, dislikes doing the same things over and over again.

Exploitive type: This believes that many peoplecan contribute to a good decision, but they must be deceived. Decision usually contain the idea of others, none of whom receive credit.

Marketing type is an opportunist, primarily concerns with personal success.

Hoarding type: Protection of his position and exhibits little trust in others. Decisions are tightly controlled and secret.

Production type: Recognize immense capabilities and is interestedinndeveloping the abilities of others. Decisions tend to integrate both organizational goals and individual good.

ROLE OF INFORMATION

Decision making is a rational, information using process, not an imotional process in this context, difficulties in decision making can be attributed to either inadequate information or to inadeuately specified objective. A large measure of success will be related directly to the quality of information available to the decision maker.

1. Information aids the decision maker by narrowing the range of hypothesis.
2. Information reduces decision maker's uncertainty by narrowing the range of viable alternatives.
3. Information gives rise to observable effects
4. Decision maker updates his existing of situation.
5. Decision maker makes a decision on the basis of all information available to him.
6. Decision maker gets the capability to choose the "best" course of action.

ROLE OF LIBRARY AND INFORMATION SERVICES

Since information plays a vital role in decision making, therefore Library and Information Centres automatically come forward to aid the decision makers through various services. Some important services are as follows:-

Current Awareness Service (CAS)

The aim of this service is to keep the management abreast of the current developments in the respective fields of interest.

Selective Dissemination of Information(SDI)

SDI is a highly personalized service within an organization which concerns itself within the channels of new items of information where the probability of usefulness, in connection with current work or interest is very high. Its basic goal is to keep the clientale abreast of current development in the specified field of interest, on the basis of user profiles.

abstracting Service

A service to provide the decision maker a bird's eye view of an idea about the main points discussed in the original document/latest literature on the subject.

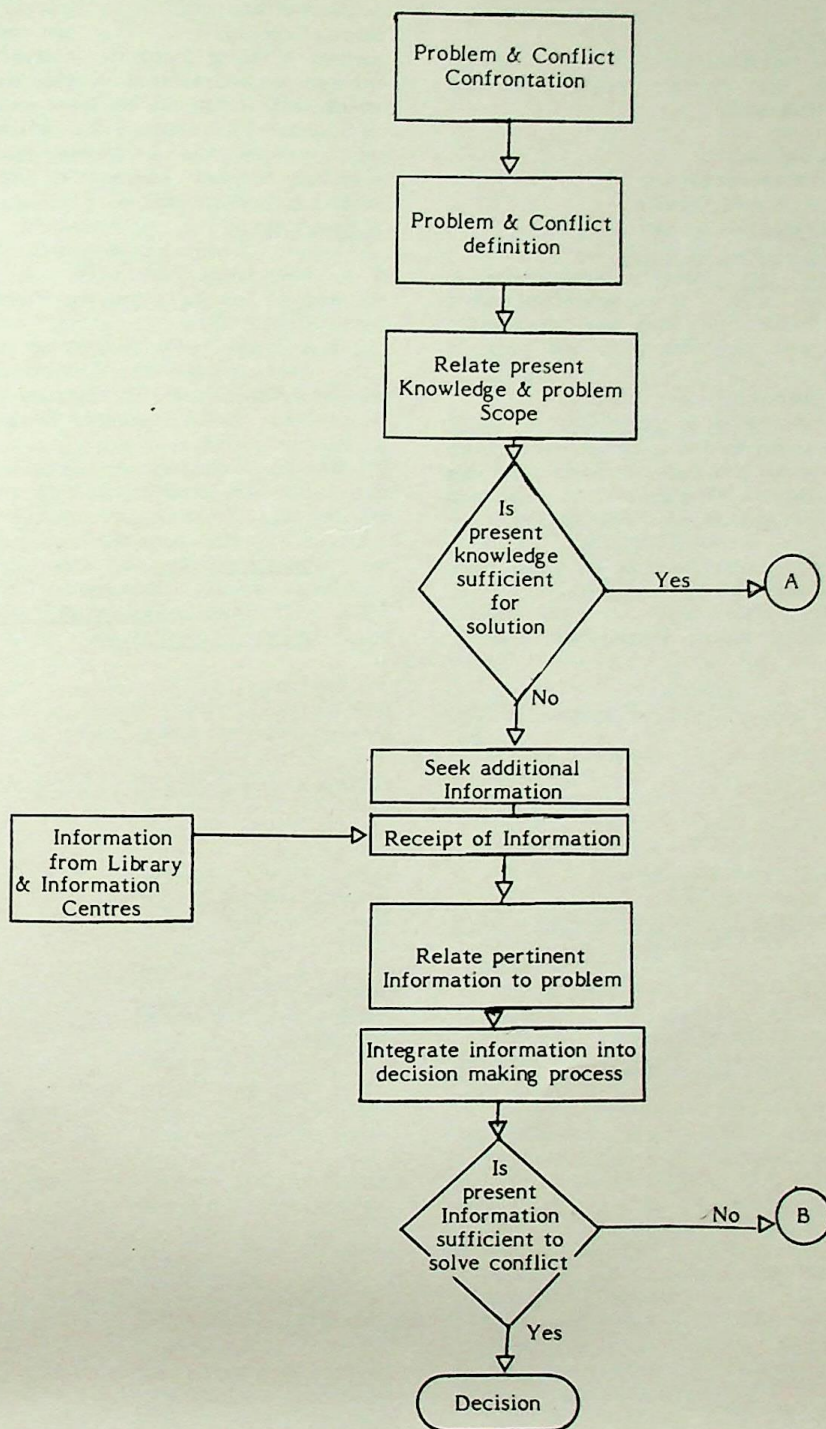
Digest Service

A service to desseminate current information in a specific field from management point of view.

Data Compilation Service

A service with a purpose to collect data (Technical Commercial, Technoeconomic, disseminates statistical etc.) on a subject of interest in a suitable form.

Press Clipping Service

As an aid to reference work the service maintains collection of editorials, articles, news items and other information on different

FLOW CHART DEPICTING USE OF INFORMATION IN DECISION MAKING PROCESS

subjects required for day to day use for decision making.

Translation Service

To provide technical service in the language understood by the decision maker from any other foreign language.

Others

Literature Search
Project Information Service
State of Art Report Service
Express Information Service

HINTS FOR DECISION MAKERS

1. Marshal the fact effective decision making is based on facts - facts concerning what the real problem is; what your alternatives are; and what are the pros and cons of each.
2. Consult your feeling
3. Make sure the timing is right
4. Don't overstress the "finality" of the decision
5. Talk it over - It usually helps to take big decisions over with others. It also help to sort out and clarify the thoughts and feelings
6. Analyze the problems with an open mind
7. Know yourself.

CONCLUSIONS

It is essential to an organization that its management develops rational decision making procedure and strives to improve its decision making capabilities. This can best be accomplished by using adequate information available through various Library & Information Services which will have to be continuously reviewed and updated in regard to atleast the most vital performance indicators such as policy effects, decision inputs etc. to assess the significance of trends.

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THE LIBRARY AND INFORMATION SERVICES AS A TOOL FOR MEDICAL RESEARCH

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Library and information services provided by the health science libraries and documentation centres assist the health science readers to update their knowledge, obtain standard data and answer specific queries. With the enormous increase of literature in the medical and allied sciences, it is becoming extremely difficult for the readers to cope up with this literature. But at the same time, it can occasionally be disastrous to be unaware about recent progress. So the health science libraries/documentation centres have a big role to play. The information disseminator must find the ways and means to collect and handle effectively the information generated throughout the world.

The impact of modern technology comprising computer services, photocopiers, microforms and other reprographic equipments, audiovisual media, and progress in telecommunication devices have revolutionised the running of libraries. These technological innovations have given a new dimension to the information concept. It is because of these developments that users have been forced to change their approach in acquiring information.

At this juncture, it will be worthwhile to know the users of health science libraries and their information needs which are enumerated below :-

CATEGORY OF USERS		INFORMATION NEEDS
1. Doctors	:	Uptodate lates information of world literature in relevant subjects, reports, proceedings of seminars, symposia, meetings and workshops in their discipline.
2 Administrators & Planners	:	Statistical data, reports, government publications, program management studies.
3. Students		
(a) Undergraduates	:	Books, rarely journals, basic reference tools etc.
(b) Postgraduates	:	Latest information of world literature in relevant subjects togetherwith advance information.
4. Medical & Non-medical Teaching staff	:	Books, journals, indexing/abstracting periodicals, reports of meetings, conference proceedings, material relating to interdisciplinary aspects of teaching, changes in curriculum, organization of courses.
5. Researchers	:	Current information & data of world literature in relevant subject, reviews, state of the art etc.
6. Community health workers, family planning field workers, health/ sanitary inspectors	:	Repackaged information written in suitable language.
7. Nurses	:	Books and rarely journals.

MEDICAL MANPOWR IN INDIA

We have adequate number of medical colleges and research institutions in India. The number of total persons employed in these institutions is also manifold. Besides this there is considerable addition of medical manpower produced annually. The table No.1 gives the total number of registered medical and paramedical personnel. Besides this, we have fairly a good number of seats in different institutions which provide training facilities. Table No.2 gives this data.

Table 1

Registered Health Personnels in 1982 (Allopathy System)

Doctors (medical)	...	2,71,598
Dentists	...	8,801
Nurses/Midwives, Auxiliary Nurse, Health Visitors.	...	4,19,228

Source : Health Statistics of India, 1984

Table 2

Health Personel Training Facilities in India

Medical Colleges(Seats)...	12,278
Dental Colleges(Seats) ...	879
Postgraduates (Seats) ...	5,179
Pharmacy Colleges(Seats)	5,596

Source : Health Statistics of India, 1983

GROWTH OF HEALTH SCIENCE LIBRARIES IN INDIA

There has been a fabulous increase in the health infrastructure during the last few decades. To support this development, libraries have also grown accordingly. Lt Col McDonald's report (1945) of the conditions of the libraries included only 25 medical colleges and 7 research institutions in India. Today, the number has increased to 628 as given in the following table:

Medical Colleges ...	106
Dental Colleges ...	25
Nursing Colleges ...	13
Pharmacy Colleges	21
Homeopathic Colleges	112
Ayurvedic Colleges	95
Unani ...	6
Siddha ...	1
Hospitals ...	55
Research Institutes	101

Associations/ Societies ...	57
Central/State Govt. Dept. of Health / Medical Services/ Family Welfare	18
Pharmaceutical Laboratories ...	16
National Medical Library ...	1
WHO Regional Office Library ...	1
Total :	628

(Health Science Libraries in India)

They serve over 10 to 15 million workers of various categories.

ROLE OF HEALTH SCIENCE LIBRARIES

One can see from the table of information needs of the diverse category of the health science library users, that the health science library and its librarian as its head is rested with the ultimate responsibility of meeting with the information requirements. Information needed by each one of the group is of different types, but requirements of some of the groups may be overlapping with others. What is useful for teacher may be also of interest to a postgraduate student.

So in order to meet the diverse kinds of demands of the users, different library & information services have been developed. It is being discussed here in three tiers.

International Level
National Level
Local Level

INTERNATIONAL LEVEL

At the international level we have MEDLARS (Medical Literature Analysis and Retrieval System). It is a computerised system having the contents of about 2800 journal titles in biomedical sciences. It is found that 55% of the titles are in English language. The journals articles are scanned by trained literature analysts, indexed by using Mesh (Medical Subject Headings) and are stored in computer media. The principal products of this computerised system are :-
(i) Index Medicus (monthly)
(ii) Current Catalogue

Index Medicus is a comprehensive index to biomedical literature. The current catalogue supplements the National Library of Medicine Catalogue regarding its monograph and serial acquisitions.

MEDLINE: MEDLINE is using the MEDLARS data base in an online user interactive system. It facilitates user to interact with the computer data directly from a remote terminal provided to him. This service was started in December 1971. Forty different cities including Paris in France are connected through a 200 words/minute printing device to the NLM computer. This ensures simultaneous use of the single database by number of users at a time. By 1973, over 120 medical institutions were using about 200 terminals. Since 1975, the following types of online services are put in operation through MEDLINE. They are : SDILINE, CATLINE, SERLINE, TOXLINE, CHEMLINE, CANCERLINE etc.

MEDLARS services are directly available in hard copy in the form of Index Medicus, whereas MEDLINE presupposes the user to have a terminal connected to the NLM'S Computer.

Around 50 libraries in Australia are now using MEDLINE. In U.K., MEDLINE is operated under BLAISE network. Thus MEDLINE is used by over 300 institutions in U.K., France, Japan, Canada and Australia.

WHO/SEARO Network

HELLIS is the acronym for Health Literature, Library and Information Services Network covering the countries of WHO Southeast Asia region i.e. Bangladesh, Bhutan, Burma, DPR Korea, India, Indonesia, Maldives, Nepal, Sri Lanka and Thailand.

In 1976, the Regional Advisory Committee for Medical Research in Southeast Asia Region of WHO, recognizing the need for scientific information by research workers, recommended that a mechanism be developed whereby all research workers in the region will have access to the health literature they require. The Southeast Asia Regional Committee of WHO at its meeting in 1978 followed this lup and recommended that a network of health science libraries be set up to provide health literature and information services in the countries of the region.

In 1979, SEARO organized an inter-country consultation meeting of senior librarians, administrators and users of libraries to discuss the feasibility of establishing a resource sharing network of libraries in the region. The basic concept behind HELLIS is that of resource sharing. Resource sharing will be done through networks utilizing the available resources to the maximum extent.

The objectives of HELLIS Network is to make better use of the existing resources in the country, the information resources in other countries of the region, and the information resources in other regions.

In each country, there will be a national HELLIS Network with a focal point and the Regional HELLIS Network is formed by the linking up of the national focal points.

Directly, after the 1979 meeting, all participating countries were required to hold national HELLIS meeting and designated their focal points. SEARO offered technical and financial support for holding their meetings.

HELLIS national networks have been formed in seven counries of the]Southeast Asia region: Bangladesh, Burma, India, Indonesia, Nepal, Sri Lanka, and Thailand, and national focal points have been designated.

HELLIS has been able to carry out the following activities:-

1. Established HELLIS Networks in seven countries of the region.
2. Regional workshops on health science library network management were held on 10-21

August 1981 and 10-20 August 1982.

3. First Workshop on MESH indexing of health literature was held on 3-14 August 1982.
4. Index Medicus for WHO South-East Asia Region had been compiled and the trial issue was available early in 1983.
5. Consultations have been provided by SEARO to assist in the development of the network.
6. Retrospective bibliographies are being published, e.g. an Annotated Bibliography of medical literature in Burma 1866-1980 compiled by Khin Thet Htar.
7. Free MEDLINE searches and photocopies are being provided.
8. The HELLIS Newsletter disseminates relevant information of HELLIS activities.
9. The Regional HELLIS Committee has been constituted to advise on the development of the Regional Network.

The HELLIS Network is important because it aims to serve not only the relatively small number of persons in the medical schools and research institutes but also to meet the literature and information needs of the vast number of health professionals and other health workers posted in the peripheral regions of the country.

In January 1983 the Karolinska Institute library and information Centre in Stockholm, Sweden, agreed to supply SEARO and SEARO countries with up to 500 retrospective and current awareness searches a year for three years. No photocopies will be supplied.

NATIONAL LEVEL

At the national level in India, we have National Medical Library. The National Medical Library which is the outcome of Bhore Committee report, has been established by the Govt of India, to meet the information requirements of biomedical community. It provides the following services:

(i) CHETNA: A current Health Literature Awareness Service is a quarterly publication. It includes citations from journals, books and reports in the following areas: (a) Primary Health Care (b) Health Planning and Administration (c) Medical education and training (d) Hospital care.

(ii) Library Bulletin : It is a quarterly publication listing acquisitions of the NML including books and reports. This bulletin is an important source for medical and helath science libraries to select publications required for their libraries.

(iii) Highlights from current Health Literature: To keep the policy makers, planners and health administrators abreast of current developments and futuristic information, a fortnightly selective Dissemination of Information Service is being issued.

(iv) Bibliographies: Bibliography on a given topic are prepared on specific requests.

(v) Literature Search: Search for current literature on a given topic is also done.

(vi) Photocopying Services: Single copies of journal articles, specific pages of a book or a report are supplied on payment basis.

LOCAL LEVEL

As mentioned earlier there are about 628 libraries attached to different colleges, research institutions & laboratories. Each library is providing services, in order to meet the demand of the clientele. Recently a survey was conducted by the authors about the documentation activities in different health science libraries. A questionnaire was sent to about hundred odd libraries in India. The complete report of the survey is in press. One thing can be inferred from the survey that, about 90% of the libraries are willing to provide more information services, but because of paucity of staff cannot do so.

Our library attached to All India Institute of Medical Sciences serves the Faculty members, U.G. students, P.G. students, Nurses, Researchers and other technical staff. It remains open from 8.00 A.M. to 2.00 P.M. on all the days of the week including sundays and holidays. It provides following services tothe users :-

1. Book Alert Service: This is a monthly service listing the new books, monographs, and pamphlets added in the library in the respective month. This service has been computerised since February 1985.
2. Periodical Alert Service: This is a fortnightly service listing the new periodicals received in the library during the fortnight. The detail of title, volume, issue number and year is given. This service has also been computerised since February 1985.
3. AIIMS ARTICLE ALERT: This is a monthly service listing the important articles in each subject. The articles are selected from current periodicals received in the library.
4. Bibliographies on Demand: The staff of the library compiles bibliographies on various topics as and when demanded by the readers.
5. Reprography Services: The reprographic services are very popular amongst the readers. The library has three machines, viz. Xerox 2300, OCE 1250 and Finesse 4515.
6. MEDLINE SEARCH: The requests for medline search are entertained from Faculty members and are sent directly to Karolinska Institute, Stockholm. Medline (Medical Literature and Retrieval System Online) is a computerised database developed by the National Library of Medicine, USA. It is searched for obtaining references which cannot be searched easily with the help of printed index medicus.
7. THESES DATABASE: As a part of the curriculum, the students of M.D., M.S., D.M.,Ph.D. and M.Sc., are supposed to submit a thesis of their research work. The library has a collection of about 2000 theses. Recently a database for theses has been created on HP-1000 computer using IMAGE-1000 database.

CONCLUSION:

As it is clear now that health science libraries and information centres are lending a helping hand to helath team in the pursuit of their medical research. Still much more can be

done if proper staff, adequate funds and support is provided to the information disseminator. Some of the suggestions are :-

1. An information/documentation centre for health science should be established similar to that of INSDOC, DESIDOC, SENDOC, etc.
2. There should be a depository of theses at one place. As a part of curriculum, students are required to submit a thesis. It should be made obligatory on the part of students to send one copy of thesis to the central depository.
3. It is high time now to think for the creation of our own database. It is our experience that only 5 to 10% of the Indian medical literature is reported in the foreign databases. Most of the research work goes unnoticed.
4. The important health science libraries in the coutry should be linked with good tele-communication systems.
5. User's survey should be conducted from time to time, in order to assess the needs of users.
6. Information produced by an institute should be made available through bulletins/newsletters/summaries of publication etc.
7. To manage the health science libraries/documentation centres, we need manpower specially trained for this purpose. Therefore, it is suggested that leading universities should take up this task to provide training exclusively in medical librarianship.

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PROFESSIONAL EFFECTIVENESS IN A LIBRARY

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Library progress centres on a fundamental area of human experience in general and revolving around in particular to three classes of people[1], namely :

1. Those who use the library,
2. Those who operate the library, and
3. Those who are responsible to authorise and finance the library development.

Quite obviously effective management of the people is possible only through better relations which in turn result in the coordination of the above three classes of people.

Two important terms 'Individual Effectiveness' and 'Library Effectiveness' which form the substance of this paperneed brief description.

LIBRARY EFFECTIVENESS:

Hershfield[2] suggests that library effectiveness is a function of the librarian's ability to change his perception about what is important in library service; and this implies that the librarians should change their emphasis from one concerned with books and buildings to one concerned with people and information.

K.H. Janes[3] relates effectiveness to the ability of librarians to be creative in their interactions with materials and users.

INDIVIDUAL EFFECTIVENESS:

Individual effectiveness may be defined as providing right information at a right time to a right person in right time (time taken). It means that an individual should provide the sought information to the seeker in minimum (cost/effective) possible time.

Individual effectiveness in a library can be evaluated only when we have clear idea of the objectives of the library, achievement of which is its primary goal.

OBJECTIVES OF LIBRARY:

If the staff of the library is effective, it is possible for the library to add a new function or activity to it. Individual should be adequate to his/her task. He should be certain of the rationals of his kown profession and the imagination to sum up the potentialities of the situation in which he is working[4].

The human action are always goal oriented, or we can say that human acts have motives behind them. These motives arous as well as maintain activity and determine the general direction of the behaviour of an individual.

Mathew[5] outlines objectives of a library "to influence positively the information consumption and information production or generation habits and pattern of the people it has to serve by providing the relevant information at the required time in a meaningful manner".

We now proceed towards identifying the factors, which effect the effectiveness of an individual in a library organisation. It is to be admitted that these are so closely interlinked that none can be discussed exclusively i.e. without touching upon others.

These are :

1. Organizational climate/working environment;
2. Participative management;
3. Motivation;
4. Manpower planning;
5. Performance appraisal of staff; and
6. Training.

ORGANIZATIONAL CLIMATE/WORKING ENVIRONMENT

The library operates under two main climates viz :-

1. The climate of the library, and
2. Immediate operating environment of the organization of which it is sub-system.

The climate of a library depends on types of employees it has - their knowledge, skills, attitudes - types of technology or nature of work. Besides these, the entire social system of the organization of which it is subsystem is responsible for climate.

Bhooshan Lal[6] has identified eleven variables tomeasure the climate of libraries in India:- 1. Coommunication, 2. Control, 3. Decision making, 4. Frustration, 5. Goal conflict, 6. Human relation, 7. Leadership, 8. Motivation, 9. Moral, and 10. Organizational problems.

OPERATING ENVIRONMENT:

An individual in a library cannot handle the information which is closely related to all aspects of the Library's environment. Functional units of selection, acquisition, cataloguing, circulation and reference, each deal with a different aspect of the library's environment. Close coordination among all these is necessary for effective individual output.

Organizational climate in toto is thus perception of all the cues or clusters of all the variables that go with an organization and with which organization changes inputs and outputs. The climate is pervassive and its effects are strong enough to influence the behaviour pattern of employees.

PARTICIPATIVE MANAGEMENT

If the staff is allowed to participate in decision making, it affects his morale and consequently the output may be more. The motivational basis is that people like to be asked-their opinion and know that their ideas and beliefs have some weight in the ultimate decisions taken by the management.

By being a part of decision-making process, people accept responsibility. Participation

in decision-making, thus, promotes team work and emphasises the uses of creativity. It leads to feeling of competence and self esteem. It enables the subordinates to satisfy their urge of belonging to the organization. People participate in an organised enterprise in order to achieve some goals which they cannot achieve as individuals.

A study about participative management and its effectiveness in an Indian University Library, conducted by J.K. Khanna[7] reveals that library personnel perceive participative management (PM) as a significant factor for adding to work effectiveness of the employees. But under constraints it is available to them to some extent only.

"In the situation as prevailing in the university libraries in India, subordinates" participation seems to be most essential for adding to work effectiveness, and for stimulating motivation and morale of the library personnel as a means for releasing productive energies... It should be an actual sharing of the decision-making process resulting in the ultimate socialisation of the library operation".

Unfortunately in Indian libraries the participative role is merely consultative, that too with the employee being used to lend support to predetermined solutions.

Participation will help in :-

1. Building employees trust in the management,
2. making employees feel responsible,
3. building cooperation among employees,
4. promoting goal oriented thinking.

However while applying participation model in libraries a note of caution is necessary. It cannot be universally applied to the personnel of all cadres working in the libraries. It will be frustrating and demotivating to request participation by an employee who knows little or nothing about the problems at hand, who does not desire interesting work, involvement in decisions etc.

Decision-making through consensus of individuals should be employed only to the extent that the consensus model leads to greater organizational effectiveness than that of the authority model, and definitely not beyond. But to ignore participative management altogether will be at the cost of library's efficiency.

MOTIVATION:

The dangers of not applying motivation factors in staff deployment and staff supervision generally are that staff may suffer from endamic low morale. Getting right people in the right jobs, in terms of education, qualifications, experience and temperament is an essential first step in having a well motivated staff.

Different streams of thought e.g. Scientific management, Human relations etc. have developed principles from time to time to motivate employees in an organization, and those are normally applicable to libraries as well. Some factors which influence in motivating the library employee could be :-

1. Variety of job, 2. Involvement with users, 3. Satisfaction with library materials, 4. Service orientation, 5. Personal/professional growth, 6. Intellectual satisfaction/use of professional expertise, 7. work climate.

The library staff would get motivated if their interaction needs are fulfilled, like[8]:

1. To give and receive recognition for work done,
2. To feel a sense of achievement,
3. To have opportunities for feedback about their work,
4. To experience positive supervision (affective as well as task-oriented),
5. To identify with the system through a work group or team, and
6. To participate in decision-making about their own work and related areas.

A.L. Kapoor[9] has conducted a study on motivation of library staff in Delhi University Library System in 1980 to identify factors of motivation. Opinion survey therein points to be following:

1. Some of the senior staff members feel that they do not participate in decision-making.
2. They are not happy with the frequency with which the staff meetings are held.
3. They are not consulted the recruitment/promotion/deployment/transfer of the staff working with them. This results in low motivation and low morale, and effects efficiency of staff.
4. They feel that sometimes other considerations like prejudices/likes/dislikes/pressures form the basis of promotion. This results in callous and indifferent attitudes of those adversely affected towards the institution.

The study also indicates the following motivational factors :-

1. More money, 2. Participation in decision-making, 3. Autonomy in work, 4. Good senior, 5. Effective way in choosing one's co-worker, 6. Recognition of one's performance, 7. Internal promotions, 8. Better understanding of the objectives of the library, 9. Participation in seminars/conferences, 10. Security of ljob, 11. Congenial atmosphere for the work, 12. Residence near the office, 13. Status symbo, and 14. In service training.

SUGGESTIONS:

In order to improve effectiveness/motivation of staff following measures can be taken:

1. Job rotation (but not in an unhealthy attitude).
2. The staff should be provided a mix of technical and readers service in a higher promotion of jobs.
3. Senior staff members should be invited to staff meetings regularly held.
4. Staff should participate in framing rules and regulations for higher education, promotion, creation of new services etc.

5. There should be delegation of authority to different unit heads demarcating their functions, responsibilities and duties.
6. The formal standards of performance and appraisal should be scientific and made known to all.
7. There should be sound policy for promotion, permission for higher education. It should be followed consistently.

MANPOWER PLANNING:

Need for Planning: [10]

According to James Walker manpower planning is "rather complex task of forecasting and planning for the right numbers and the right kinds of people at the right places and the right times to perform activities that will benefit both the organization and the individual in it".

Moreover, it becomes important because of rapid rate of change which impacts on staffing needs and requirement. Library personnel must be equipped to respond to current as well as future needs. It provides basic outline of staff deployment over the next few years, and may also indicate what training developments are needed to support this outline of staff deployment. It is also intended to ensure that the library's most expensive resource its staff, be deployed in the best possible way, by which is meant not only best in terms of effective services but also best in terms of job satisfaction for the staff. If the planning is properly done, more useful staff can be employed who shall be more effective.

JOB ANALYSIS:

Staff could be considered the life-blood of any library or information service, and effective recruiting and training can make all the differences between a poor service and a high quality service. For this, job analysis which is a process of systematically collecting, analyzing and interpreting information about jobs is required to be done. Accurate information on job shall also aid in identifying career ladders (existence or their absence) for library staff. Jobs are ultimately only justifiable in terms of the library's objectives, so every job should be seen as in some way contributing to what the library is trying to achieve in the way of services toits user community. The job holders should be made aware of how their work fits in with the work of the rest of the library, and of the parent institution. It shall affect/improve their performance. They should know what is expected from them in quantitative and qualitative measures.

CONTENT OF JOB DESCRIPTION:

The library personnel to be more effective should know :-

1. purpose, objective of the ljob. A detailed description of what the job is about should be given so that the job holder has a strong sense of playing a purposefulpart in the library's activities and services to its public.
2. main tasks and duties. This is a list of the activities which the job holder is expected to perform.
3. place of the post in the library's staffing structure. It should indicate clearly as to whom the lmember of the staff is responsible, and whom they are required to supervise in turn. This is sometimes set out in the form of an organization chart. It should also indicate range and level of decision-making involved in the job.

PERSONNEL SPECIFICATION: (which affect effectiveness).

Rodger[11] gives seven points in this regard. 1. Physical make up 2. Attainments 3. General intelligence 4. Specialised aptitudes 5. Interests 6. Disposition 7. Circumstances

Fraser[12] gives a five point plan as follows. 1. Impact on other people 2. Qualifications 3. Innate abilities 4. Motivation, and 5. Adjustment.

PHYSICAL MAKE-UP AND IMPACT ON OTHERS:

In both these plans it means appearance, bearing and speech, and the reaction which these elicit in other people, both colleagues and users. In addition, it covers stamina required to carry out professional duties.

QUALIFICATIONS AND ATTAINMENTS:

It meeans educational and professional experiences which an individual has lhad from school through higher education and from previous jobs, which may differ from institution to institution.

GENERAL INTELLIGENCE/INNATE ABILITIES:

It means ability to apply intelligence as also the quantum of intelligence displayed by an individual in his or her usual mode of working.

Innate abilities give 'a general quickness in the uptake' and 'special aptitudes'.

Rodger's category of 'special aptitudes' include mechanical aptitude, manual dexterity, facility in written or verbal expression.

ADJUSTMENT:

According to Fraser it is emotional stability, and is concerned with the amolunt of stress a person at work is capable of standing, particularly in interacting with other people. There should be match between the individual's needs and the specific job requirements.

INTERESTS:

Rodger says that it means 'to what extent are a person's interests intellectual'? or 'practical-constructional' physically active? 'Social'? 'artistic'? In a way it means individual's professional and leisure interests.

DISPOSITION:

Disposition being related to set of attitudes and personality traits, which to a large extent determine the impact made on the public and on other staff in the work group.

PERFORMANCE APPRAISALS OF STAFF:

An effective performance appraisal system involves rating form, evaluator's judgements,

job standards and criteria, organisational policy, evaluator training and in U.S.A. even legal requirements[13] It can provide library management with a useful tool that may perform many functions in personnel decision making and improve employee effectiveness.

The appraisal system should start with the desire to improve the performance of individual staff. For this some monitoring of performance by appraisers is required. Staff should be informed about their existing performances in order to be stimulated to improve upon them. This way their careers can be developed differently.

Appraisal should be viewed in association with the training and development of staff because it helps to identify training needs which have tobe met if staff are to improve their performances. For success of appraisal, the library should be able to offer training opportunities to staff who are formally appraised. Otherwise it may cause resentment or frustration. Most important in appraisal is that it improves relationships and communications between seniors and subordinates.

The appraisal gives a better knowledge of the capabilities of the staff as a whole. Weakness should become more apparent and, in particular, skills and knowledge, which may previously have been overlooked, should come to light as individuals hopes and aspirations are discussed.

Usually the evaluation contents are not revealed to the appraised, where as there should be known, and possibly read by the person. A natural reaction to open appraisal might be that appraisers tend to be less candid where criticisms need to be made. But the findings of Walker[14] suggest that there will at first be deterioration and then an improvement.

SUGGESTION TO IMPROVE EFFECTIVENESS OF AN INDIVIDUAL:

1. Performance expected of employees should be communicated and goals and objectives of the employee's job should be made clear in terms of behaviour and the results to be achieved.
2. The employee should be advised of the purpose(s) of the appraisal.
3. Problems that may be hampering job performance should be discussed with the employee/individuals.
4. An opportunity should be provided for the employee to voice opinions during the appraisal process.
5. The transfers should be made, but with a healthy attitude, not in a way of repremanding the employee. It lowers the morale of an employee and productivity suffers.
6. Performance review should be an ongoing procedure, even to include day-by-day coaching if necessary. It should not be simply the usual once-a-year affair.
7. Team work should be stressed where it is necessary, as well as personal achievement.
8. Where it demands, jobs can be enriched or enlarged.

TRAINING

Although library/information personnel coming in the profession are already professionaly qualified, they may also need some kind of training in-between job. That will help an individual :-

1. to perform his job more effectively within overall attainment of institutional objectives;
2. to boost his morale and confidence; and develop consciousness about individual rights and duties in the institution and profession;
3. to overcome personal inhibitions due to inferiority or superiority complex in the overall staff structure;
4. to keep up-to-date and well informed.

Surveys should be made to discover training needs of the whole library staff. This training can be imparted by various programmes like: 1. Seminars 2. Workshops/refresher courses 3. Summer/Winter Schools or Institutes 4. Conferences 5. Specialised Courses on year to year basis and 6. Self directed learning.

Incidentally, professional organisations and training institutions in India like DRTC, INSDOC, SENDOC, Academy of Library Science and Documentation, Hyderabad etc. provide opportunities for specialised and in-service training.

PROFESSIONAL'S OWN ROLE:

Training imparted by agencies is not sufficient. The library personnel must understand the characteristics of excellence and must desire to be at the forefront of quality library services. For this, he should :-

1. inculcate in himself an interest for improving his information in whatever way possible;
2. read library literature;
3. take active part in professional activities;
4. contribute to professional ljournals, seminars, workshops, etc.
5. hold informal discussions with his colleagues.

The American Library Association[15] has framed a code of conduct for American librarians. Three clauses of this code make it obligatory on the part of the professionals to keep themselves updated with the latest in their field through various programmes of continuing education. In India too, some such code requires to be formulated.

All said and discussed about individual effectiveness and how the management can accomplish it, we conclude with the very important factor and that is the moral aptitude of librarians towards the profession.

Librarians will have to take up their job in the spirit of service to those who are in search of knowledge. The latter may consist of extermely different types, ranging from illiterate to academician, young boy to an old man, villager to an urbanite, etc. He is to be impartial in his dealings with all of these categories. He is to be critical and honest while acquiring library material. He should have tons of patience to hear the problems of the users and provide best possible advice. Finally, it is the moral fibre of the individual which could bring laurels to him as well as to the institution where in he works.

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LIBRARIANSHIP : CHALLENGES AT CROSSROADS

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INTRODUCTION

'Libraries', says conscientisation exponent Ivan Illich, 'are first and foremost places where people can come in contact with books, where the unique experience of learning can heppen'. This traditional concept still holds valid. But the activities and services of the libraries have increased manifold with the passage of time and the libraries are no longer places for preservation of books only. According to Galvin : Both the library as a social institution and librarianship as a profession find their ultimate justification in a deep and pervasive commitment to the fundamental value of information and knowledge both to the individual and society at large.

CHANGING ROLE OF LIBRARIANS

During pre-50's, main function of a librarian was to systematically organise documents and provide these to the users on demand. There were few researchers and they knew where to find the required material. The professionals were grounded in the art of cataloguing, classification, circulation control and book processing. The need for the librarian as scholar was not considered necessary.

In the post 50's, documentation which was previously regarded as not very important came to occupy a prestigious position in the library activities. Many indexing systems like Chain Indexing, PRECIS, KWIC, KWOC came tobe adopted for analysing the thought contents of the documents. Library education curricula emphasised training in indexing and abstracting tothe new entrants. According to Bhattacharya, "We witnessed a progressive change from documents to information, from analytical mode of thought to analytico mode of thought". This change was in tune to the needs of the researchers. With the publication explosion, researchers were not expected to waste their precious time in search of the needed information from a plethora of documents. Documentalists here came to their rescue. But efficient services did not come only from professionals in the libraries but also from those who worked outside, i.e. in commercial concerns, who had taken up the documentation work in a business like way. Universal Reference System, Political Science, Government and Public Policy Series, Social Science Citation Index, Combined Retrospective Index to Journals in Sociology, 18951974, are some of the products coming out from this channel.

The last two decades have witnessed greatest impact of electronic information technology on library and information services. Our ancient ways of transfering knowledge from person to person through 'shruti (listening)' and 'smriti' (memory) have taken up mechanised form in the shape of computers, records, cassettes and tapes. Setting up of Information systems/ networks and, data banks have become the national and international goals. Automation of libraries has become the priority area within

Librarian's activities have crossed the four walls of the library. Information requirements of the users compel him to look outside, i.e. to those Centres which can assist. According to Gopinath "It calls for letter communication skills, analytical and critical awareness to information need, accessibility and use". Concomitant to these development, librarian has to face various challenges, which can be briefly identified as under :-

PRESENT DAY CHALLENGES

Information Explosion: The continuous accumulation and proliferation at a tremendous rate now described as a phenomenon of information. There are now more information generation centres-national as well as international. A lot of literature in the form of books, periodicals, papers, research reports, pamphlets, standards/patents, etc, is continuously poured out. Though lot of it is now under bibliographical control, thanks to computer technology, but more is still not easily accessible to research scholars such as in-house reports of organisations, conference papers, research project reports, government reports, reports of regional and international organisations and data collected by commercial concerns. The librarian's job is first to have full knowledge of the different institutional sources of information and the nature of the literature produced by them and secondly to make efforts to procure it before it gets out of print/use.

Information Dissemination: The greatest challenge, faced by librarian is to provide information to the user which is accurate, timely, relevant and systematic. Mere providing all the information available will not solve the problem, rather it may confuse the user. Information overload is as much dangerous as is insufficient information. Librarian's duty is to shift evaluate and synthesise the information before it is serviced to the user. Users will also have to be kept abreast with the latest available literature through CAS & SDI services or through any other mode which may also include personal dialogue/ rapport. Librarian is thus expected not only to be proficient in the professional techniques but well versed with the field of knowledge which he handles to understand clearly what his user wants.

TECHNOLOGICAL CHALLENGES

As already stated, developments in information technology have revolutionised the information services. Computers have now made it possible to store and retrieve large quantity of data within minimum possible time. In-house activities can now be automated which may help the professionals to dēvote more time to reference services. Networks lo͞cated in any part of world can be accessed within no time for any type of information through telecommunication lines.

In thecase of library collection, microform material is replacing parts of library printed material. More than this, the age of the electronic book is on the threshold of libraries. With the advent of optical disks, vast amount of information whether textual or numeric can be easily stored and readily accessed. Thus full text electronic data bases will henceforth be more commonplace.

Not only electronic storage but electronic delivery and messaging have appeared on the scene. With facsimile machines, whole documents including diagrams can be transmitted electronically from a hard copy version at the transmission end to a hard copy replica at the receiving end.

A librarian has to think of all these while planning for the future. The decision will have to be taken as to which of the several medias, print, audio-visuals, electronic is most effective in transferring specific kind of information to specific kind of users. According to Shields "Library as an institution has to be changed from a place of physicalfacilities to a place of technical expertise" The workforce with systems knowledge and management skills will strongly challenge professionals trained in traditional techniques.

USERS DEMANDS

There is no doubt that the number of the potential users has increased manifold and their expectations from information services have also been quite high. Not only the correct information is wanted but that also within minimum possible time and in the form and language which is intellegible. The librarian has tosee that the service tools and gadgets introduced are users friendly. Besides this, the users are to be trained in their proper handling e.g., how to operate a micrographic reader, electronic photocopier and on-line computer service, sothat he has not to call upon the librarian every time. He (the user) should feel himself as part of the institution rather than an outsider. Development of library collection will require complete knowledge about the needs of the users and how they formulate, pursue and fulfil their information needs. According to Li "They (librarians) act not merely as intermediaries but as social workers, information planners or energetic salesman to develop, generate and ever refine the needs of the users".

As we move from document delivery to effective information transfer as the new social mission of the library, we are obliged to achieve a far deeper understanding of the fundamental nature of human information need, in all of its complex and varied dimensions.

PROFESSIONAL COMPETITIVENESS

Librarian is now not the only mediator between the user and the graphic record. Information scientist who knows the techniques of modern information technology is now in greater demand than a librarian. Commercial data centres employing such persons are providing quite efficient information services. These centres stress more on providing information itself rather than directing the users to the source of information which usually our libraries do.

The present day audio-visual media (radio, television, films) is also gaining great importance as a source of information, thus challenging the utility of libraries as the only source of information.

Professional challenges can be faced on two grants -competance in the information services techniques and good knowledge of the subject field. The later would help librarian to understand the significant output and trends in the field and also to know the research process.

MANAGERIAL CHALLENGES

A librarian is to act now not as mere technical perfectionist but a manager too, who knows professional techniques, understands human psychology and has the knack of applying modern management techniques to planning and organising information system as a whole. Many factors like the increasing cost of collecting, evaluating, processing and servicing of information/documents; technological advances; competitive nature of service and recognition of information as a resource, has made it incumbent uponthe librarian to come to grips with management science. Limited finances and space will require high quality of managerial skill to fit in efficient information services.

NATIONAL CHALLENGES

Our government is embarking on ambitious development programmes under the 7th Five Year Plan. The successful implementation of these depends upon the coordinated efforts of scientists, technologists, planners, administrators, social scientists, educationists, etc. But all the above participants in the development game require information, which according to Dr. Nayudamma "provides the decision makers alternative choices, negotiating capabilities and a base for wise decision". But while planning information services for high ups, we must not forget the persons at the grass roots level. Right decisions at top will be based on correct nformation collected at lower level and provided at the right time, in the right way and to the right person. With limited resources, it may not be possible to organise information services of international standard at mass level. We shall have to think of some alternative approaches. In this context, the experiements made by Paulo Friere and Ivan Illich in the field of Education in Latin America and expounded through their philosophy of conscientisation must be seriously studied. The field of Education and Information Services are closely related. Alternative approaches to educational system can be equally

applied to the information field. Librarians will have to provide guidelines for the infrastructure keeping in view the overall national objectives and the resources in hand.

CONCLUSION

Librarianship, thus, faces manifold challenges that even threaten its existence. It will have to come lup to the standard of service expected by the users or to give way to others. Knowledge of professional techniques, users needs, information technology, management principles, etc will be pre-requisite for a librarian to be successful in the profession. He is to be courageous to convince his superiors about professional requirements and dynamic enough to visualise and introduce the new technologywhich suits the working environment. But in the end it is not the machine but the man behind the machine which will produce results. The executives in the higher echelon will also have toplay their part: As without their active participation, cooperation and encouragement, librarian will find himself frustrated in his mission of providing an efficient information service. He has to be associated in decision making process at the time of planning for information services. Due regard and appreciation of his services will go a long way in the all round improvement. This is a time of challenge and we should prove ourselves equal to it.

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BURN OUT;A PROBLEM AFFECTING INDIAN LIBRARIES

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ABSTRACT

Librarians, of late, have been facing the problem of 'Burn Out' increasingly throughout the world. An analysis of the concept suggests that the job of helping readers may become taxing and often lead to stress. Frustration, stagnation, lack of invention, monotony, etc., are symbols - which may cause total loss of enthusiasm. In India, particularly in the field of Govt. of India Libraries, the whole pattern needs immidiate redressal to avoid this harmful problem. A study of the 3rd pay commission report suggests how poor is the whole staff pattern. The whole structure, if properly scrutinised will hardly attract bright students in the field of Library and Information Science of the country. The Information Science, being a most pertinent tool for a developing nation should be given greater recognition. A study of some Govt. of India Libraries also reveal that in almost all cases, stagnation causing deep frustration, may lead to total loss of enthusiasm. A national information and library service on the line of other group-I services is required to bring uniformity and justice in the profession. Individual effectiveness and institutional effectiveness is bound to improve with the changed atmosphere. The harmful problem of burn out can be avoided through the efforts simultaneously taken by the Govt and the professionals.

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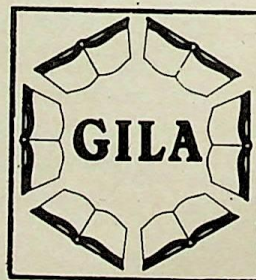
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